Aviation MACCS Programs

LtCol Kocian

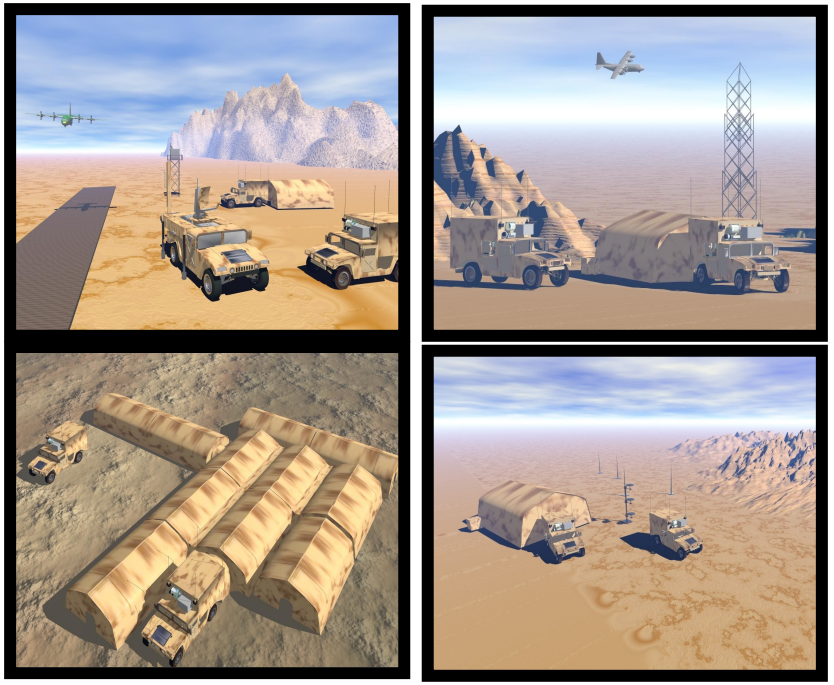
HQMC

Dept of Aviation

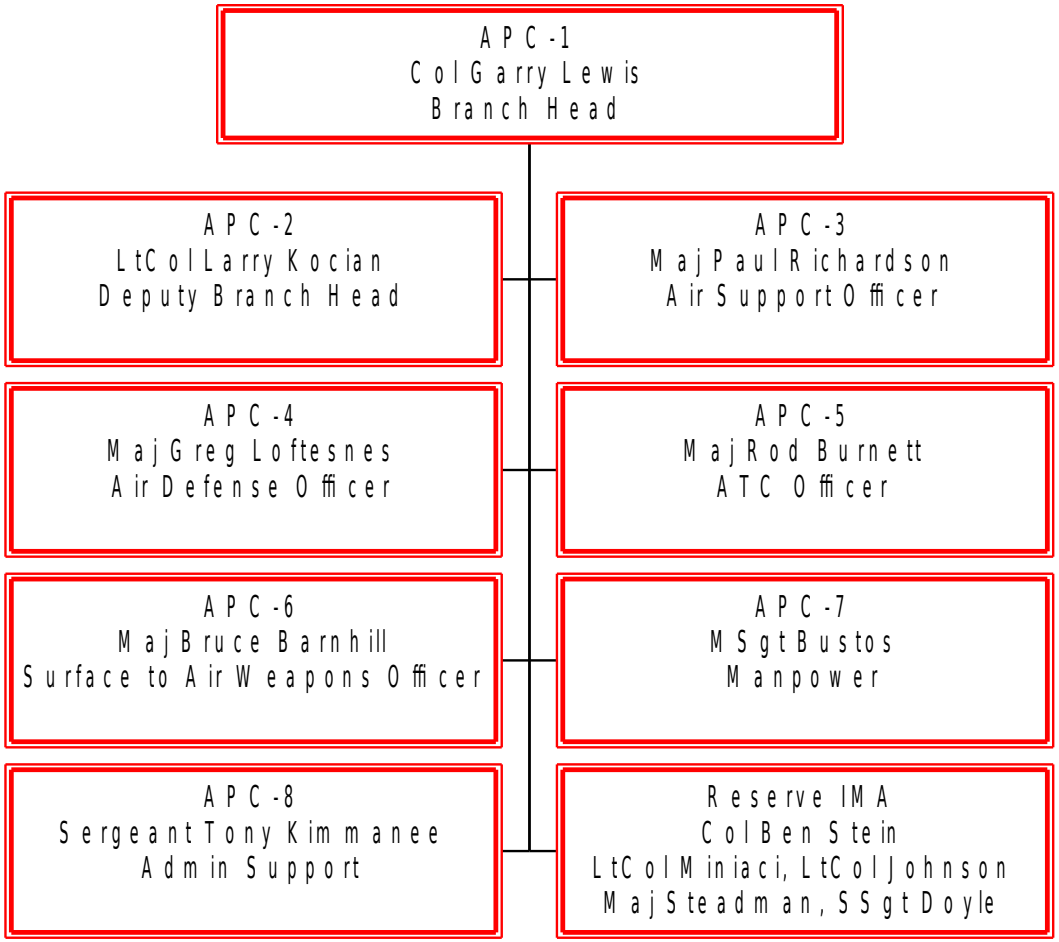
Code APC

APC Mission

- Advise Deputy Commandant for Aviation on air command and control matters.
- Occupational Field Sponsor for 72XX/59XX MOSs
- “Advocate” for MACCS community



APC Organization



“The Convergence Factor”

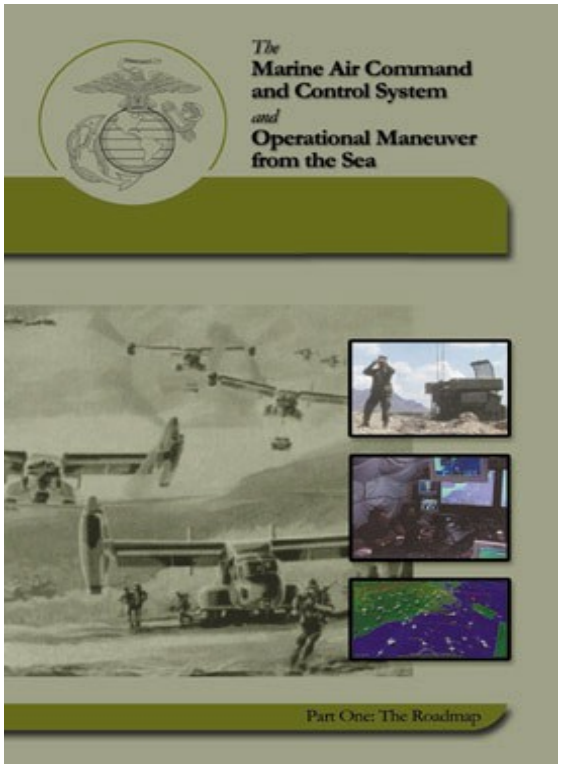
- **CMC interview (Armed Forces Journal International Sep 2000)**

- **“Consider this: By the end of this decade, the Marines expect to field the Joint Strike Fighter, the tilt-rotor MV-22, modernized Cobra attack and Huey utility helicopters, and new KC-130J refueling tankers.”**
- **"And I want Marines to know about that. They know about all of the individual programs, but I'm not sure they really [appreciate] the convergence factor," said Jones, adding, "There's tremendous synergistic effect from having this convergence, because it is essentially our modernization for the 21st century, or at least for the first half of it," he said.**

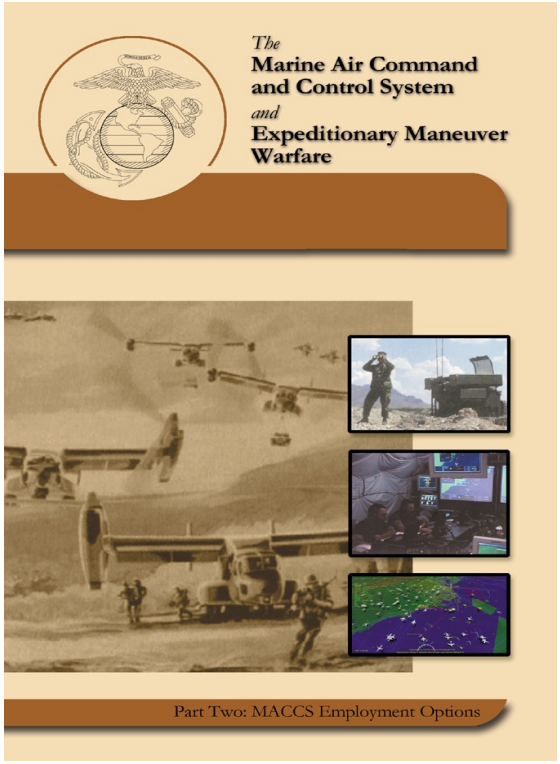
Shaping the MACCS

Based on EMW, OMFTS, Joint Vision 2020, MC Strategy 21

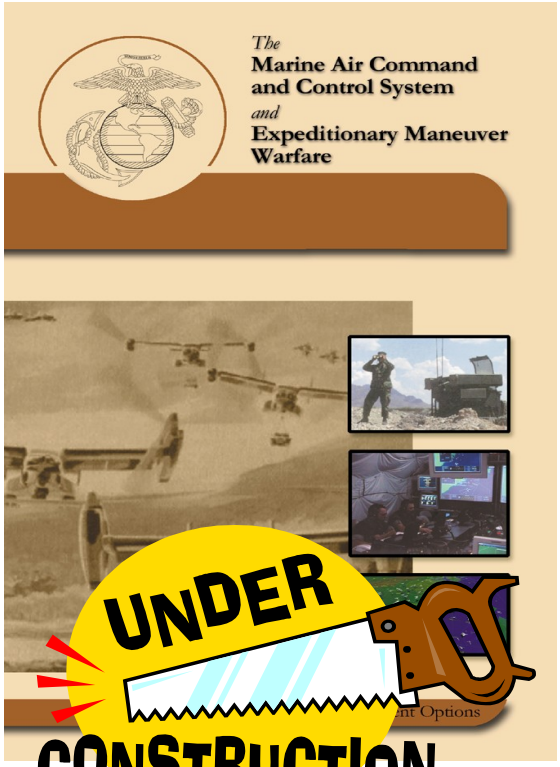
Part One



Part Two



Part



MACCS and OMFTS

- Roadmap for the future MACCS
- Fully in step with the direction of Marine Aviation
- Outlines future tenets
  - Joint interoperability
  - Expeditionary packaging
  - MAGTF C4I "Information Warriors"

15 December 1999

The Marine Air Command and Control System and Operational Maneuver from the Sea

This paper represents an evolving path to the future for MAGTF Aviation as part of the Marine Air-Ground Team in the 21st Century, which began with the publication of the capstone Marine Corps Concept paper Operational Maneuver from the Sea. It complements and addresses the future relevance of MAGTF Aviation's command, control and coordination capability to the Marine Air-Ground Team and addresses the enabling functions, capabilities and roles the MACCS will play as part of the MAGTF and Joint Command Information Architectures. Aviation command and control must provide the basis for translating the MAGTF Commander's intent into aviation specific capabilities. Together with the vision expressed in MAGTF Aviation and Operational Maneuver from the Sea, MAGTF Aviation and the MACCS will transition into a modern, highly mobile, flexible and scaleable capability positioned to meet the 21st century challenges associated with Operational Maneuver from the Sea.

F. McCorkle
Lieutenant General, U.S. Marine Corps
Deputy Commandant of the Marine Corps for Aviation
Headquarters, U.S. Marine Corps

J.E. Rhodes
Lieutenant General, U.S. Marine Corps Commanding General
Marine Corps Combat Development Command

MACCS and Expeditionary Maneuver Warfare

- MACCS Employment Options
- “Packaged” as MEB Capability Sets
- Expeditionary packaged scalable to meet the MAGTF mission

27 March 2001

The Marine Air Command and Control System and Expeditionary Maneuver Warfare

The second in a three part series, this paper continues on the path to the future of MAGTF Aviation as part of the Marine Air-Ground Team in the 21st Century. It addresses future employment options for the Marine Air Command and Control System (MACCS) and provides examples of how the MACCS will be employed in support of the MAGTF.

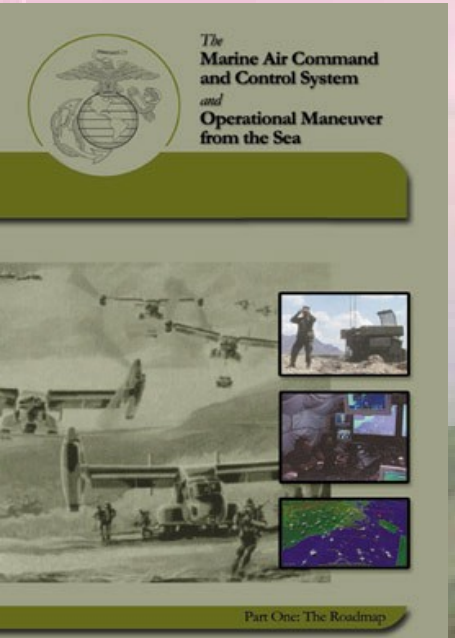
Since the publication of The Marine Air Command and Control System (MACCS) and Operational Maneuver From the Sea (OMFTS) Part One: The Roadmap, Expeditionary Maneuver Warfare (EMW) has emerged as the Capstone Warfighting Concept for the Marine Corps. EMW describes the multidimensional, scaleable, expeditionary, combined arms Marine Air Ground Task Force (MAGTF) and how it will operate.

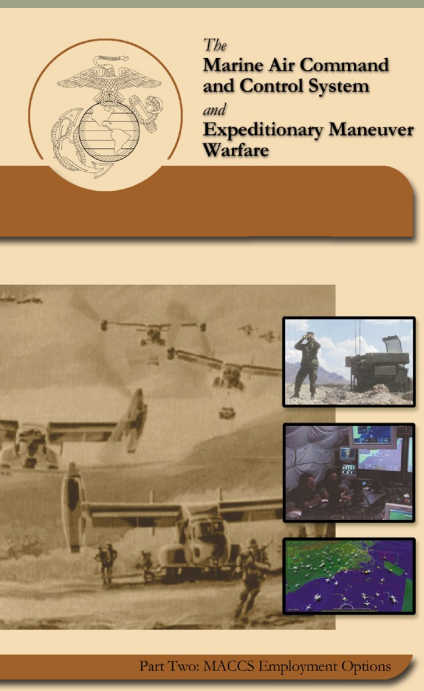
The MACCS and OMFTS series is now more appropriately renamed The MACCS and EMW series. Part One will remain as originally titled, and its “direction of march” remains valid. This document, Part Two: MACCS Employment Options, describes how the MACCS will be expected to operate in an EMW environment.

B. B. Knutson, Jr.
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Combat Development Command

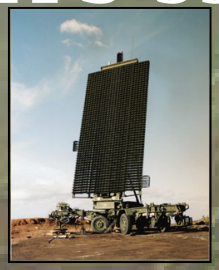
F. McCorkle
Lieutenant General, U.S. Marine Corps
Deputy Commandant for Aviation
Headquarters, U.S. Marine Corps

MACCS CONVERGENCE

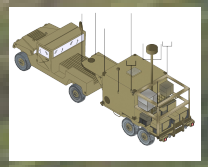




TPS-59



CTN



CAC2S

CLAWS

MRRS

ASPARCS

Command and Control

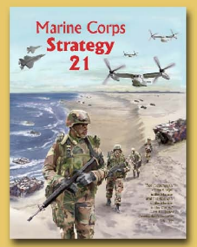
Current Battlefield

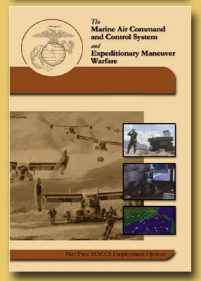
Command and Control Facilities

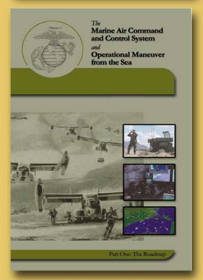
Ground Transportation

Strategic Lift

"Way Ahead"







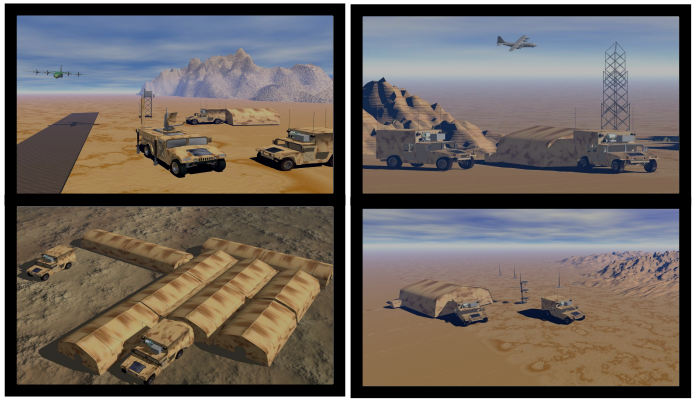
Future BattleField

Command and Control Facilities

CAC2S

Organic C-130 Lift

Common Aviation Command and Control System (CAC2S)

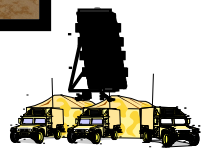


Increment I - Hardware and software replacement for the core MACCS requirements and the Tactical Air Operations Center (TAOC) functionality

Increment II - Tactical Air Command Center (TACC) and Direct Air Support Center (DASC) functionality

Increment III - Marine Air Traffic Control (ATC) C2 Integration

Increment IV - MAGTF OC functionality



- Cornerstone MACCS Program
- Consolidate MACCS functions within a single operational facility (OPFAC)
- Reduce footprint, lift, and logistical support requirements
- Contract Award to Raytheon Naval Systems Integration - May 2001
- Incremental Fielding
- IOC FY07

TBMCS

- Automates air C2 and intelligence systems.
- Plans and executes theater-level air campaigns.
- Operationally supporting OEF at PSAB.
- Ver 1.1.1 voted SOR at 20 May 02 JSAO SCCB.
  - Upgrades include USMTF 00, web-enablement, and server consolidation.
- US Navy submitted POM 04 budget request to fund installation of host systems on amphibs.

DASC(A)

- DASC(A) RAM replaces analog communication system with digital system currently fielded in ground DASC.
- Bridge the gap until CAC2S airborne (FY07).
- KC-130T supports until KC-130J.

- Fielding schedule:
  - 2 in FY03
  - 2 in FY04
  - 4 in FY05

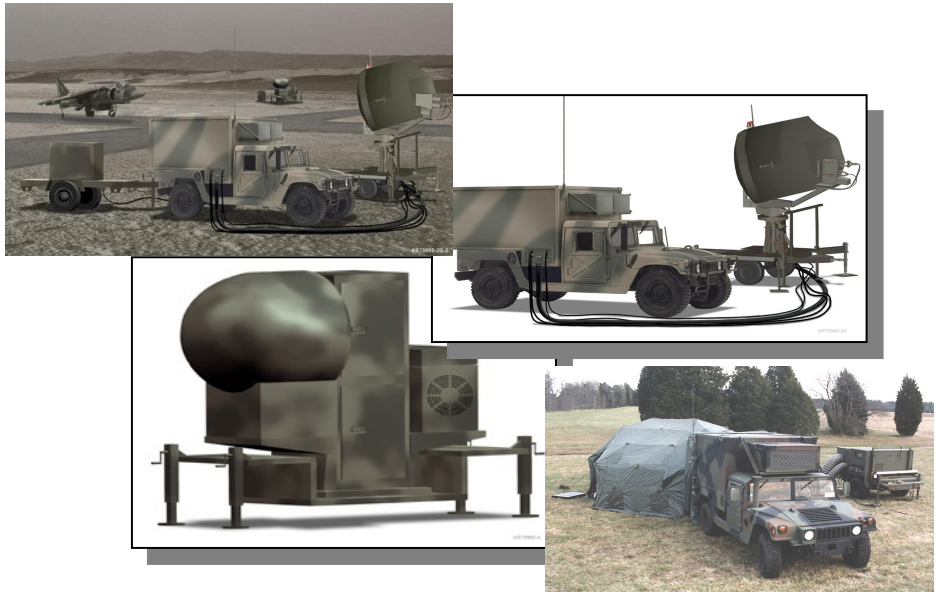
CAC2S Airborne FY 07

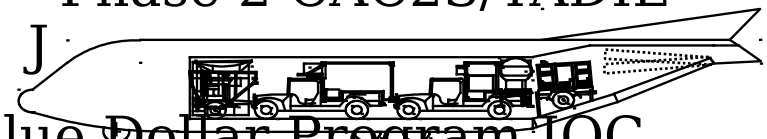
SIAP

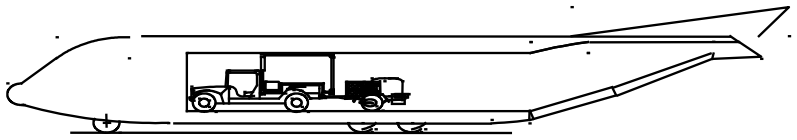
- The SIAP System Engineering Task Force (SIAP SE TF) is JROC chartered, focused on joint systems engineering to identify the most cost effective fixes to improve the operational air picture.
- SIAP: For every airborne object there is one and only one surveillance track corresponding to that object.
- TF is developing ECPs at the JDN level of the COP, focusing on Link-16 implementation (called “Block 0”)
- Funding Components:
  - Joint Service Engineering – Services pay the costs
  - Service System Engineering – Currently unfunded
  - Service Implementation – For Block 0, PDM
- Recommendation: Continued engagement by MCSC (SE) and HQMC Avn (Sponsor)

Air Surveillance and Precision Approach Radar Control System (ASPARCS)

- Next generation expeditionary ATC equipment
- HMMWV Packaging
- Expeditionary Airfield/FOB
- Full IFR Capability
- (2) KC-130
- Incremental Fielding
  - Phase 1 ATC Core
  - Phase 2 CAC2S/TADIL J
- Blue Dollar Program IOC FY04







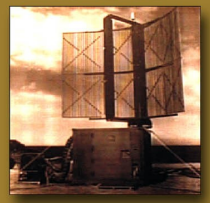
Sensors

Current Battlefield

Radars

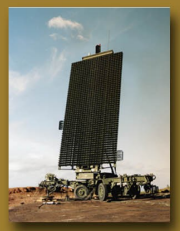
TPQ-62

TPS-73



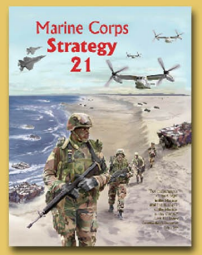
TPS-63

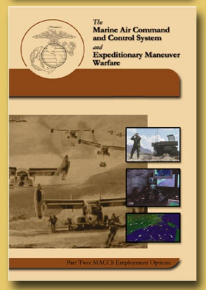
AN/UPS-3

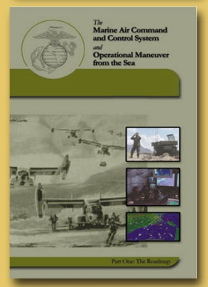


TPS-59

"Way Ahead"







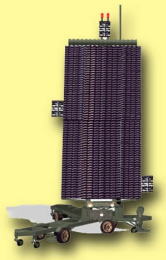
Future BattleField

Radars

MRRS

MCSLAP

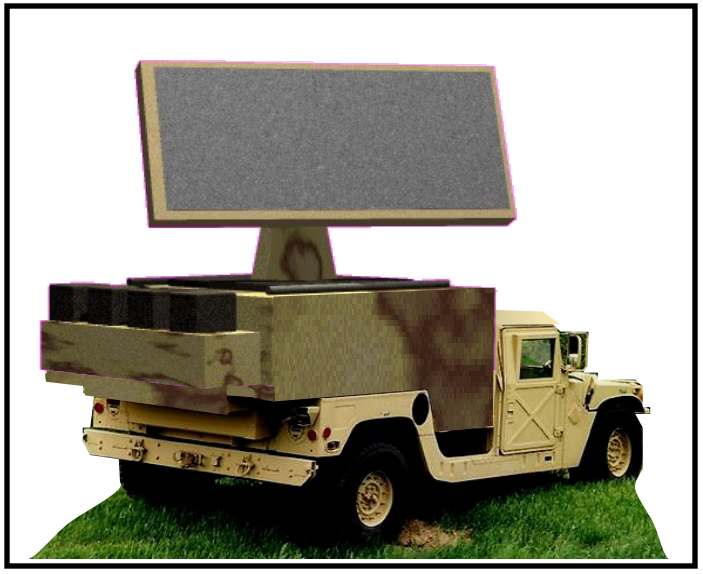
CTN



TPS-59

Multi-Role Radar System MRRS

- **THE MEB CAPABILITY SET SENSOR**
- **Affordable,lightweight, highly mobile, multi-mission radar to support littoral operations**
- **360° surveillance, 90 - 120nm medium to low altitude detection capability against LACM and ABTs**
- **Replaces:**
  - **TAOC TPS-63**
  - **ATC TPS-73**
  - **SHORAD MPQ-62**
- **IOC FY07**



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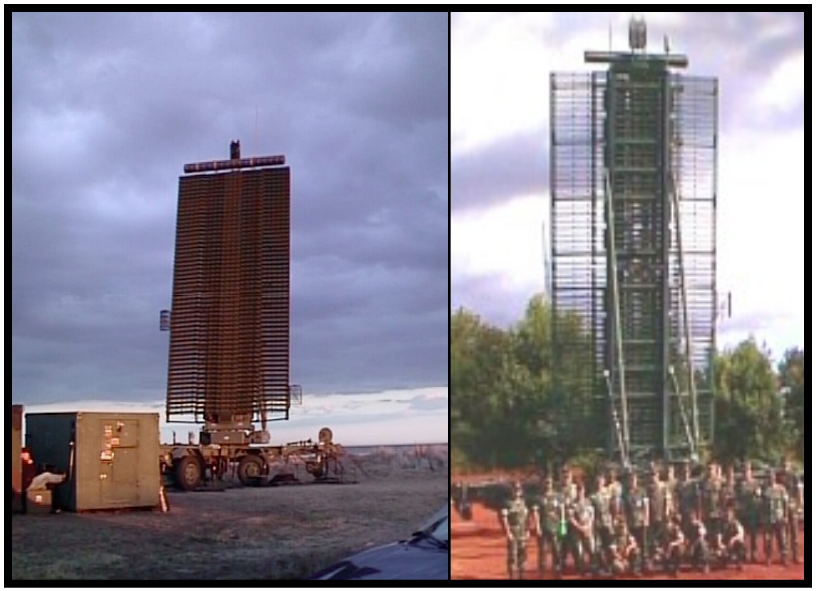
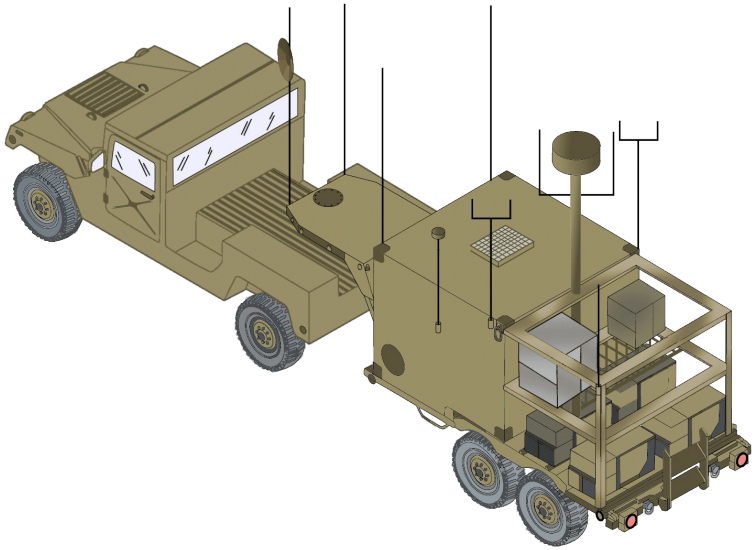


- Long-range, three dimensional surveillance radar (ABT/TBM)
- SLEP
  - Primarily replace antenna items
    - Transmitters (funded)
    - Receivers
    - Power supplies
- Modernization effort (IOC FY-08)
- Expeditionary packaging
  - Exploring alternatives
  - Possibly lose range, gain

Composite Tracking Network
CTN

- Marine Corps requirement for sensor netting
- Foundation for SIAP
- Stepping stone Network Centric Warfare
- IOC FY07



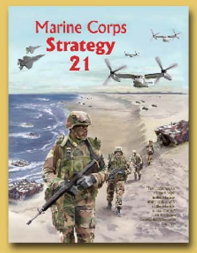
Weapons

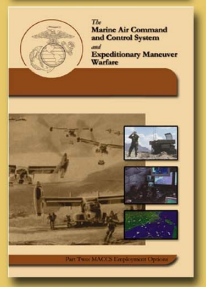
Current Battlefield

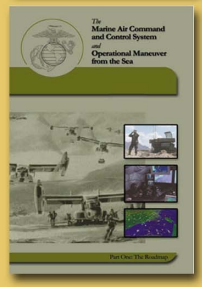
Avenger

MANPAD

"Way Ahead"







Future BattleField

Avenger

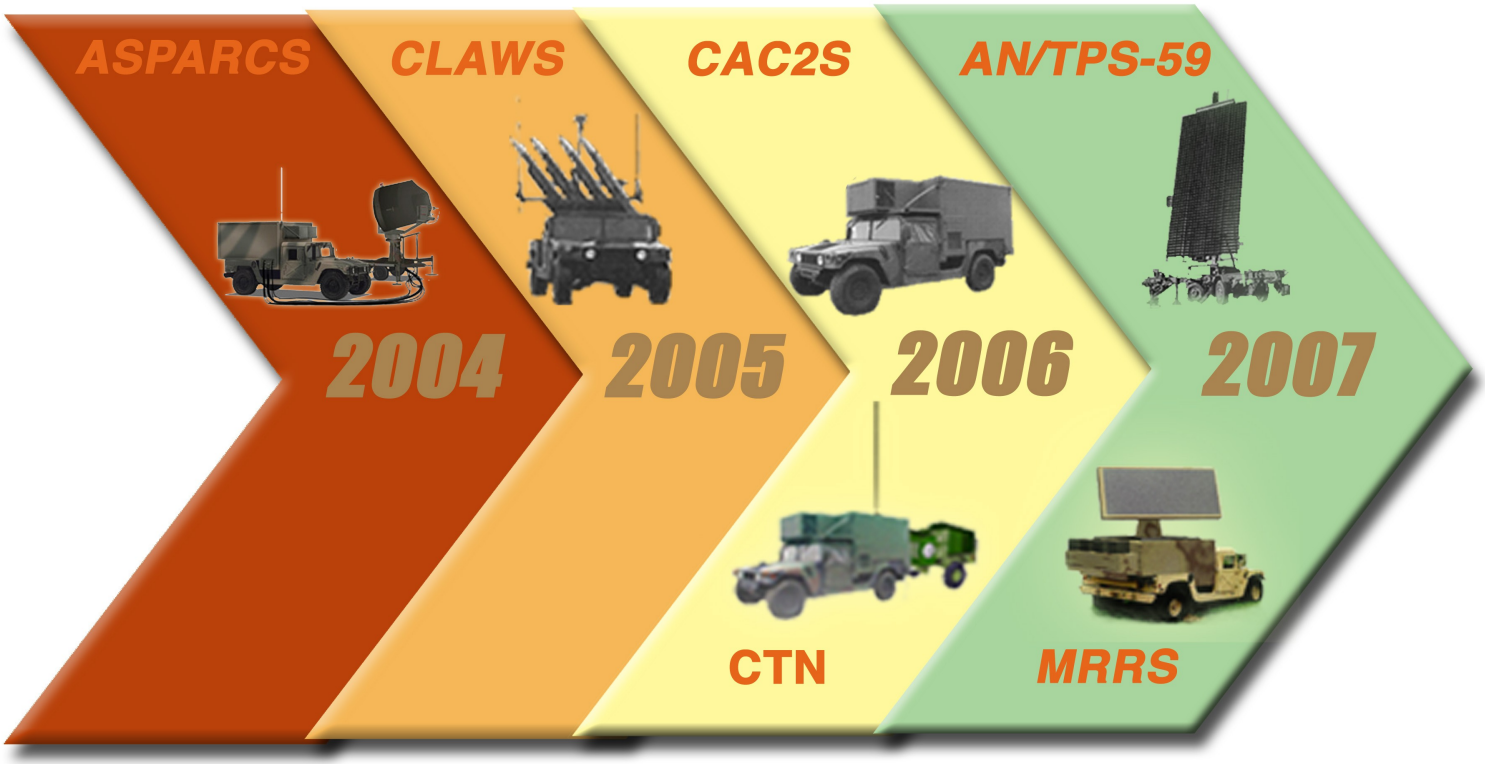
MANPAD

CLAWS

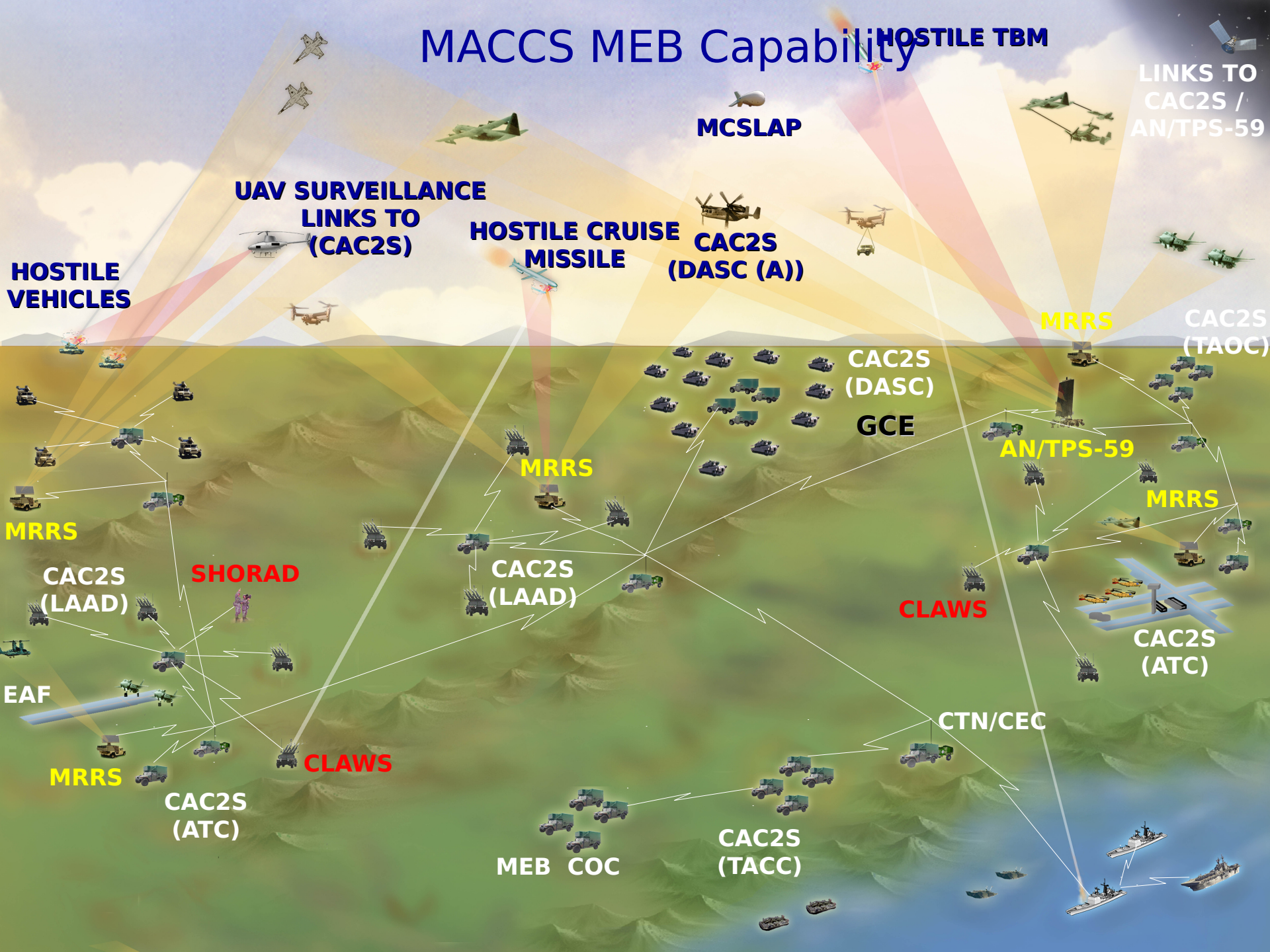
CLAWS

- **Defend against cruise missiles, fixed and rotary-wing aircraft, and UAVs**
- **Complements existing Stinger-based short range air defense (SHORAD) capabilities**
- **Contract - Raytheon (Apr 2001)**
- **IOC FY05-06**
  - **Initial fielding with "interim" sensor and C2**

TIMELINE



MACCS Sustainment
LAAD Sustainment


MACCS MEB Capability
HOSTILE TBM
LINKS TO CAC2S / AN/TPS-59
MCSLAP
UAV SURVEILLANCE LINKS TO (CAC2S)
HOSTILE CRUISE MISSILE
CAC2S (DASC (A))
HOSTILE VEHICLES
MRRS
CAC2S (TAOC)
CAC2S (DASC)
GCE
AN/TPS-59
MRRS
MRRS
MRRS
CAC2S (LAAD)
SHORAD
CAC2S (LAAD)
CLAWS
CAC2S (ATC)
EAF
CTN/CEC
MRRS
CLAWS
CAC2S (ATC)
MEB COC
CAC2S (TACC)

Questions

DEPARTMENT OF THE NAVY
UNITED STATES MARINE CORPS
SEMPER FIDELIS